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REPORT OF WAR GAMING
OF
CINCFE OPERATION PLAN ~~206~~ 7-51

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ANNEX "A"

TO

OPERATION PLAN

FEAF NO. 4-51

INTELLIGENCE

PART I - SOVIET AIR CAPABILITIES

1. Strength and Disposition

a. The Soviet Air Forces in the Far East are composed of an estimated 5324 combat aircraft and approximately 150,000 personnel. These aircraft and personnel are believed to be organized as follows:

b. Siberian Air Forces with headquarters at Khabarovsk.

(1) The 9th Air Army with 1400 aircraft and headquarters at Vozdivizhenka. The 9th Air Army is believed to operate primarily in the Maritime Military District and Liaotung Peninsula.

(2) The 10th Air Army with 1112 aircraft and headquarters at Dolinsk. The 10th Air Army is believed to operate primarily in the Far East Military District.

(3) The 12th Air Army with 678 aircraft and headquarters at Chita. The 12th Air Army is believed to operate primarily in the Transbaikal Military District.

(4) The 5th Fleet Air Arm with 872 aircraft and headquarters at Vladivostok. The 5th Fleet Air Arm is believed to operate primarily in the Maritime Military District and Liaotung Peninsula.

(5) The 7th Fleet Air Arm with 368 aircraft and headquarters at Sovetskaya Gavan. The 7th Fleet Air Arm is believed to operate primarily in the Far East Military District.

c. The 3d Long Range Air Army with 594 aircraft and headquarters at Khabarovsk. This Air Army is believed to be directly subordinate to the Long Range Air Force. The 3d Long Range Air Army is believed to operate all over the Far East.

d. Elements of the Fighter Defense Force with 300 fighter aircraft. The Fighter Defense Force is believed to operate all over the Far East.

e. Combat aircraft in the Soviet Far East by types are believed to be as follows:

Bombers	1666
Fighters	2300
Ground Attack	630
Transports	422
Reconnaissance	306
TOTAL	5324

f. Combat aircraft in the Soviet Far East by models are believed to be as follows:

FIGHTERS	TRANSPORTS	GROUND ATTACKS
		IL-2
F-39	LI-2 (C-47)	IL-10
F-63	IL-12	
YAK-3	YAK-16	
YAK-9	IL-18 (poss)	
LA-5	TU-70 (poss)	
LA-7		
LA-9		
LA-11		BOMBERS
PE-3		
MIG-9 (Jet)		TU-2
MIG-15 (Jet)		IL-4
TYPE-15 (Jet)(Poss)?		PE-2
YAK-15 (Jet)(Poss)?		TU-4 (poss)

2. Combat Efficiency

a. Although some ninety percent of the aircraft in the Soviet Far East might be made combat-ready for a single initial operation, it is believed that not more than fifty percent of them could be kept operational under conditions of sustained combat.

b. Considering the above, the Soviet Air Forces in the Far East are believed to be capable of performing:

(1) 20 fighter sorties per month/per aircraft.

(2) 20 ground attack sorties per month/per aircraft.

(3) 15 bomber sorties per month/per aircraft.

c. Subsequent estimates of total sorties do not consider the possible diversion of certain numbers of aircraft for action against Alaska or other areas.

d. Although favored with a superior aircraft count, the Soviet Air Forces in the Far East may be subject to certain factors which would have a limiting effect on their combat capabilities. They may be experiencing difficulty in replacing critical parts and entire aircraft engines. There seems to be a shortage of technical and maintenance personnel. In some instances a shortage of POL has been indicated; however, this is believed more probably to be a withholding of POL in order to maintain stockpiles, rather than an actual deficit.

e. In addition, the proficiency of Soviet flying personnel is believed to be somewhat less than that of western standards in certain aspects of air operations, especially those pertaining to night, weather, and mass formation flying, high altitude bombing, and long range navigation. These factors are particularly significant in estimating the combat capabilities of the Soviet Air Forces in the Far East because each of them could prove to be a limiting factor to offensive Soviet air operations in this area.

3. Fighter Capabilities

a. Soviet fighter aircraft in the Far East are capable of flying 46,000 offensive sorties over a 30-day period. It is believed that approximately one-half of these sorties could be flown in support of bomber attacks, or in offensive sorties, against a large portion of the Japanese mainland from presently-held Soviet bases. Of the aircraft believed probably operating in the Soviet Far East, the YAK-9u, YAK-9td, and possibly the LA-11 fighters are capable of performing the missions mentioned above.

b. The current availability to the Soviet Air Force of operating bases in South China and Hainan brings United States installations on Okinawa and the Philippine Islands within striking range of Soviet fighter or fighter-escorted bomber attacks.

c. There are approximately 300 fighter aircraft of the Fighter Defense Force (PVO) in the Far East which are assumed to be available only for defensive action. These aircraft would be capable of flying a mimimum of 6,000 defensive sorties over a 30-day period.

4. Bomber Capabilities

a. Soviet bomber aircraft in the Far East are capable of flying 24,990 sorties over a 30-day period. Both the TU-2, comprising the majority of the bomber aircraft in this area and the IL-4, carrying bomb loads of about 2,000 pounds, are capable of striking United States installations on the Japanese mainland.

b. The current availability of operating bases in South China and Hainan brings United States installations on Okinawa and the Philippine Islands within striking range of Soviet bombers now in the Far East. Should the Soviets move B-29 type bombers (TU-4) into the Far East, Okinawa would lie within striking range of present Soviet bases.

5. Ground Attack Capabilities

a. Soviet ground attack aircraft in the Far East are capable of flying 12,600 sorties over a 30-day period. These aircraft, IL-2 and IL-10 types, are of relatively short range and are not capable of performing offensive operations against the Japanese main islands of Honshu and Kyushu from presently-held bases. They are capable of striking the island of Hokkaido from present bases on Sakhalin.

b. From the southern tip of Korea, ground attack missions could be flown against all of Kyushu and the southern tip of Honshu. Okinawa and the Philippine Islands are not within striking range of ground attack aircraft operating from present or possible Soviet bases.

6. Airlift Capabilities

a. In addition to the 422 transports mentioned previously, some 1,000 transport aircraft from the Civil Air Fleet could be deployed to the Soviet Far East to mount an airborne invasion of the Japanese mainland. Probably the greater proportion of these aircraft would be of the LI-2 (US C-47) and IL-12 types, which would be capable of reaching any point in Japan, with the possible exception of the extreme east coast of Honshu and southern Kyushu. If TU-70 and IL-18 transport types were included in the total mentioned above, airlift capabilities would be extended to include all of the Japanese mainland. It is believed that some 30,000 troops could be airlifted by a maximum effort of all transports available. Utilization of gliders would, although decreasing somewhat the range capabilities of the aircraft employed, considerably increase the airlift capacity.

b. Operating from southern South Korea these aircraft would be capable of reaching the Tokyo area. Should four-engine transports be moved to the Far East, all of Japan, Okinawa, and the Philippine Islands would be within airlift range of presently-held Soviet bases. The current availability of operating bases in South China and Hainan brings Okinawa within range of the two-engine LI-2 type.

7. Logistics

a. The initial logistical support of combat operations of the Soviet Air Forces in the Far East does not constitute a great problem. The daily supply requirements of the 123 air regiments and 13 independent squadrons believed to be in the Far East is approximately 7,000 short tons. With the exception of complete aircraft and motor vehicles, this figure represents the total supply tonnage necessary to sustain combat operations, and is easily within the present capability of the Trans-Siberian Railroad. This figure, however, does not take into consideration the supplies necessary for supporting units and installations other than airfield servicing battalions.

b. The Soviets are believed to have a considerable amount of POL, bombs, and ammunition stockpiled in the Far East.

c. Should the Trans-Siberian Railroad become completely inoperative in the Far East, the Soviets could readily institute an airlift designed to supplement their stockpiles. The effectiveness of such an airlift is questionable, however, in view of the previously mentioned shortage of specialized personnel, lack of proficiency in night and weather flying and in long range navigation.

8. Conclusions

a. The Soviet Air Forces in the Far East possess an overwhelming superiority in sheer numbers of combat aircraft in this area. The majority of the aircraft in the Soviet Far East are of World War II vintage and undoubtedly fail to meet the performance standards of later models. Soviet offensive air capabilities in the Far East are further limited by a lack of proficiency in such air operations as night, weather and mass formation flying, high altitude bombing, and long range navigation. The difficulty in replacing critical parts and entire worn and

damaged aircraft engines, and the shortage of technical and maintenance personnel contribute to the estimate that not more than 50% of the aircraft in the Far East could be kept operational under conditions of sustained combat.

b. The Soviet Air Forces in the Far East are capable of executing both fighter and fighter-escorted bomber attack missions from presently-held bases against United States installations in Japan. The acquisition of operating bases in South Korea would expose all of Kyushu and the southern tip of Honshu to ground attack action. The current availability to the Soviet Air Force of operating bases in South China and Hainan brings United States installations on Okinawa, and those on Luzon in the Philippines within striking range of fighter-escorted bombers.

c. Bomber strikes against Japan from staging areas presently-held by the Soviets would for the most part be channelized into direct routes from those staging bases to the targets. This restriction on approach routes would be necessary because of the maximum range performance of the relatively short-range bombers now in the Soviet Far East. The great majority of the fighter aircraft capable of striking Japan are also subject to this limitation.

d. Should the Soviets deploy some 1,000 additional transport aircraft to the Far East, not a particularly difficult task, and one well within their present resources, they would be capable of airlifting some 30,000 troops to almost any point on the Japanese mainland. Should these additional transport aircraft consist only of LI-2 (US C-47) and IL-12 types, the airlift operation would not be capable of reaching either the extreme east coast of Honshu or southern Kyushu. However, should there be included in the total number of deployed aircraft a substantial number of TU-70 or IL-18 types, this restriction on the range of the airlift would not apply.

e. The logistical support of the Soviet Air Forces in the Far East under conditions of sustained combat is not an insurmcuntable problem, but would, in all probability, soon become critical should the Trans-Siberian Railroad service be disrupted.

f. Eliminating from consideration the 350 fighters believed to be assigned to the Fighter Defense Force and the 3d Long Range Air Army, and assuming 90% of the remaining fighters to be available, the Soviet Air Forces in the Far East possess the capability of mounting an initial strike of at least 1755 fighter sorties. In addition, during this initial strike, assuming the same 90% availability of total aircraft, it is believed that the Soviet Air Forces could mount approximately 1500 bomber and 560 ground attack sorties. It is realized that a considerable portion of the aircraft included in the sortie totals given above, due to range limitations, would be ineffective against some areas of Korea and the Japanese mainland. However, the remainder would still possess the capability of inflicting great damage to United States installations in Korea, on Okinawa, Luzon, and on the Japanese mainland. The numerically inferior United States Air Forces, in addition to those aircraft lost on the ground during the strike, undoubtedly would suffer a considerable number of air losses. Should these combined losses force relinquishment of air superiority, the Soviet Air Forces in the Far East would then assume the added capability of interdicting the sea routes

of supply both in Korea and the Japanese mainland. This factor, combined with the airlift capability discussed above, which could be utilized to put a considerable number of troops in the Japanese islands, would then render the position of United States forces tenuous.

Appendix 2 to Annex "A" to Operations Plan FEAF No. 4-51

RADAR INTELLIGENCE

SOVIET AND CHINESE COMMUNIST RADAR DEFENSES IN THE FAR EAST

PART I

GENERAL INFORMATION:

1. In using this report the following factors should be borne in mind:

a. First factor - The mobility of Soviet radar presently being employed makes frequent changes of location possible. The lack of a plot at any specific location does not in itself mean that no radar exists at that location. The exact location cannot be determined by electronic reconnaissance as D/F cuts will only indicate the area. Interpretation and logic (and occasionally photo interpretation) are used to fix the locations as indicated in this report. Some ground information is available, but this report is almost entirely the result of electronic reconnaissance conducted by FEAF aircraft. USN reports have been used to provide confirming data on known or suspected site locations and radar characteristics.

b. Second factor - Electronic reconnaissance is subject to several limitations. Ferret aircraft presently employed cannot search the frequency spectrum above 6230 megacycles. (Radar usage above 6230 megacycles is generally limited to gunlaying, surface search, navigation and possibly airborne interception.) Coincidence of search is another factor which will enable a ground site to operate undetected. Due to the lack of instantaneous D/F equipment, all signals intercepted cannot be located as to source; therefore, many enemy signals have not been plotted. This is particularly true in any area where friendly naval units are operating. Much of the Communist shipborne equipment is identical to our own (lend-lease). The areas of greatest confusion are Korea and the Formosa Strait.

c. Third factor - The use of picket ships to supplement the existing early warning net is a distinct possibility. There are indications of this in the Dairen and Vladivostok areas.

d. Fourth factor - The enemy can receive valuable early warning information from our own transmissions. USAF aircraft depend on the AN/APQ-13 radar equipment for navigation; hence the aircraft is transmitting a signal which can very simply be used by the enemy to obtain a fix in range and bearing. There are strong indications of this system being employed along the Kurile Islands chain. Since August 1950 the number of electronic intercepts made in this area have been nil, which is an indication that the Soviets are receiving the early warning information from another source. Several reported instances of jamming of the APQ-13 and voice circuits indicate that the Soviets are at least listening to our transmissions. (COMMENT: It is believed that vigorous steps should be taken to train radar operators to make the minimum use of the APQ-13 while over enemy territory or flying in a sensitive area.)

e. Fifth factor - Any radar defense network must be supplemented with visual spotters to guide against low flying aircraft and to fill in the radar blind spots. This is particularly true and applicable to Korea where the mountainous terrain would create numerous blind spots and clutter the scope with PE's (permanent echos). A spotter network properly tied in with a filter center (radar) by radio could very effectively provide information for daylight ground controlled interception.

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f. Sixth factor - The use of early warning stations to provide information for aircraft interception must be considered. Air defense sites in Japan are having remarkable success without the use of height finding radar (the third CGI requirement). As has been mentioned in previous reports, the 72 megacycles RUS type radar could be used to provide limited assistance to intercepting aircraft.

PART II

CAPABILITIES FOR GROUND CONTROLLED INTERCEPTION:

1. Before any determination of the Soviet capability for GCI can be made, the use of the double pulse radars in the 146-156 megacycles band must first be determined. If it can be determined that these sites are being (or will be) used to provide GCI information, the Soviet GCI potential would in all probability be greatly increased.

2. A minimum of six (6) double pulse stations have been intercepted in the past three months in the Dairen to Tunghua Airfield area. Furthermore, double pulse type signals have been detected on other frequencies by FEAF and Bomber Command ferret aircraft (100, 212 and 218 megacycles).

3. In the Vladivostok area, where the early warning net provides excellent coverage, the Soviet capability for GCI must be presumed to be considerable. Experience has shown that the Soviets can intercept a B-29 aircraft at night during weather conditions in this area. There are four (4) stations believed to be used primarily for GCI in the Vladivostok area (see station list). It appears that the essential elements for an effective GCI defense are available. Whether or not the tactical setup, aircraft deployment and various communications facilities are on as high a level of effectiveness is beyond the scope of this report

PART III

GUNLAYING RADAR:

1. The gunlaying radar as detected has been in the main concentrated in the 74 to 81 megacycles range. As stated in previous reports, this set is believed to be a British GL Mark II or a modification thereof. The accuracy is not comparable to the US SCR-584 which was lend-leased to the USSR.

2. This type of gunlaying radar, while not necessarily indicative of the equipment employed in the interior, has been intercepted at P'Yongyang, Korea; Dairen, Port Arthur and Antung, Manchuria; Vladivostok. MMD; and possibly at Shanghai, China.

3. Some "S" band radar, possibly gunlaying equipment, has been intercepted in the Vladivostok, Dairen and Shanghai areas.

PART IV

The following attachments are included:

a. Station List
b. Chart 1. Kurile Islands
c. Chart 2. Sakhalin Island
d. Chart 3. Vladivostok Area (MMD)
e. Chart 4. Tsingtao/Port Arthur/Vladivostok Area
f. Chart 5. Tsingtao/Ningpo Area
g. Chart 6. Hong Kong/Yungchia Area

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STATION LIST

NO.	AREA OF LOCATION	COORD-INATES	FREQ MCS	PW M/SEC	PRF PPS	SWEEP RATE	RANGE NM	USE/REMARKS
1	Cape Lopatka, Kamchatka	5055N 15645E	73	10.0	410	Trk	85	EW
2	Paramushiro Is. Kuriles	5041N 15608E	1050	2.5	Unk	12	Unk	Poss EW, no intercepts since Jun 50
3	Matsuwa Is. Kuriles	4803N 15316E	210	2.0	20	Trk	Unk	Unknown, no intercepts since Apr 50
4	Shimushiru Is. Kuriles	4655N 15215E	70	2.0	200	Trk	Unk	Poss EW, no intercepts since Jan 50
5	Uruppu Is. Kuriles	4605N 15008E	60-90	1.5	Unk	Unk	Unk	Unknown, no intercepts since Jan 50
6	Etorofu Is. Kuriles	4456N 14735E	72-73.5	12.5-15.0	50 & 596	1¼-2	85	EW
7	Kunashiri Is. Kuriles	4422N 14615E	72-73	10.0-15.0	50& 401	2 & Trk	85	EW
8	Chikadomari, Sakhalin	4605N 14326E	72	9.0-10.0	50	Trk	85	EW
9	Otomari, Sakhalin	4637N 14247E	72	7.0-10.0	50	Trk	85	EW
10	Nishi-nitoro, Sakhalin	4557N 14204E	72-78	8.0-13.0	50	Trk	85	EW
11	Otomari, Sakhalin	4638N 14247E	144	10.0	E300	Trk	85	GCI/EW poss station
12	Otomari, Sakhalin	4638N 14247E	70-80	0.8-3.5	700-1100	Trk	30	GL
13	Toyohara, Sakhalin	4658N 14244E	70-80	0.8-3.5	700 1100	Trk	30	GL
14	Yoman, Sakhalin	4848N 14441E	72	10.0	50	Unk	85	EW
15	Langari, Sakhalin	5031N 14252E	73	7.5	Unk	Unk	85	EW

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NO.	AREA OF LOCATION	COORD-INATES	FREQ MCS	PW M/SEC	PRF PPS	SWEEP RATE	RANGE NM	USE/REMARKS
16	Sovetskaya Gavan, MMD	4904N 14016E	71.9-73	5.0-14.2	50	1 & Trk	85	EW
			77	1.2	Unk	Trk	30	GL
17	Kamu, MMD	4705N 13645E	72	12.0	Unk	Trk	85	EW
18	Mys Pervenets, MMD	4504N 13640E	71.8 73	5.0 15.0	50	1-6	85	EW
19	Mys Yegorova, MMD	4446N 13628E	158	2.5	966	20	65	GCI
20	Mys Yegorova, MMD	4446N 13628E	73	5.0	50	6	85	EW
21	Tetyukhe, MMD	4422N 13551E	72.5	12.0	50	Trk	85	EW
22	Kavaletoro Afld, MMD	4420N 13503E	72.5	6.5	50	Trk	85	EW
23	Permskoye Afld, MMD	4345N 13514E	152	3.0	857	20 & Trk	65	GCI
24	Milogradovo, MMD	4321N 13446E	72	7.0 10.0	50	6 & Trk	85	EW
25	Valentinovka, MMD	4308N 13419E	73	15.0	50 & 280	Trk	85	EW
26	Valentinovka, MMD	4308N 13419E	75	2.5	1500	4	30	GL
27	Mys Ostrovnoy, MMD	4250N 13345E	215	4.5	363	Trk	65	GCI
28	Ivanovka, MMD	4252N 13321E	73	5.0	50	Trk	85	EW
29	Sergeyevka S Afld, MMD	4314N 13316E	75	2.5-4.0	1500	Trk	30	GL
30	Suchan, MMD	4307N 13306E	73	10.0	E25	Unk	85	EW
31	Suchan, MMD	4307N 13306E	200-206	3.0	970-1150	2-6	65	GCI
32	Mys Pevorotny, MMD	4241N 13302E	72	10.0-12.5	25-50	1 & Trk	85	EW

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NO.	AREA OF LOCATION	COORD-INATES	FREQ MCS	PW M/SEC	PRF PPS	SWEEP RATE	RANGE NM	USE/ REMARKS
33	Nakhodka, MMD	4245N 13252E	72.8-73	5.0-15.0	20-50	Trk	85	EW
34	Dunay, MMD	4252N 13225E	73	12.5	192	1 & Trk	85	EW
35	Dunay, MMD	4251N 13219E	72.1	20.0	E20	Trk	85	EW
36	Vladivostok, MMD	4314N 13201E	200-210	2.0-3.0	742-970	Unk	65	GCI
37	Vladivostok, MMD	4316N 13200E	73 73 73-74	10.0 12.5 4.5-10.0	192 192-298 50	18 1 Trk	85 85 85	EW EW EW
38	Vladivostok, MMD	4307N 13155E	2900	1.25	370	Unk	Unk	Unk
39	Vladivostok, MMD		71-74	1.5	770-1200	Trk	30	GL
40	O Rikorda Is. Vladivostok Bay	4253N 131402OE	72-74	10.0-15.0	50 & 212	18 & Trk	85	EW
41	Slavyanka Afld, MMD	4252N 13123E	72-74	10.0-12.5	25-50	Trk	85	EW
42	Mys Gamova, MMD	4234N 13112E	72-74	10.0-15.0	50	1 & Trk	85	EW
43	Tatoy, MMD MMD	42294ON 13048E	72-74	10.0-15.0	50 & 300	1-2 & Trk	85	EW
44	Hunchun, Manchuria	4258N 13030E	72-73	12.0-15.0	50 & 224	Trk	85	EW
45	Najin, Korea	4212N 13020E	72-73	7.5-13.5	50 & 300	1-2 & Trk	85	EW
46	Hoeryong, Korea	4226N 12942E	72	7.5-12.0	50	1 & Trk	85	EW
47	Yenchi, Manchuria	4246N 12920E	72	10.0	50	Trk	85	EW
48	Chongjin, Korea		910	4.0-5.0	E400	6	Unk	Unk, poss station

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NO.	AREA OF LOCATION	COORD-INATES	FREQ MCS	PW M/SEC	PRF PPS	SWEEP RATE	RANGE NM	USE/REMARKS
49	Tunghua, Manchuria	4135N 1262330E and 4150N 12640E	146-156	Single and double pulses; variable	Apprx 500	4-6 & Trk	Unk Range will vary with use, which is not definitely known. Range may be as high as 150 NM or more.	Poss GCI/EW
50	Kuantien, Manchuria	4045N 12445E	146-156	Same signal characteristics as Tunghua radar (Location 49)				
51	P'Yongyang, Korea	3905N 12545E	73.5	7.5	E50	Unk	85	EW
52	P'Yongyang, Korea	390020N 1254300E and 390156N 1254749E and 390245N 1254435E	76-81	0.8-3.0	700-1500	Trk	30	GL
53	Sariwon, Korea	3830N 12548E	Characteristics and use undetermined. Location obtained by photo interpretation.					
54	Antung Afld, Manchuria	4002N 12415E	100-104	12.5-60.0	300-500	2 & Trk	140/	EW
55	Antung, Manchuria		146-156	Same signal characteristics as Tunghua radar (Location 49)				
56	Antung, Manchuria	South of Antung	71-72	10.0-15.0	E50-60	Trk	85	EW
57	Antung, Manchuria		76	1.5	1100	Trk	30	GL
58	Antung, Manchuria		1280	2.5	600	2	Unk	Poss EW station
59	Chuang-ho E Afld, Manchuria	3941N 12303E	71-74	7.5-17.5	E50-60	2 & Trk	85	EW
60	Chuang-ho Afld, Manchuria	3941N 12303E	146-156	Same signal characteristics as Tunghua radar (Location 49)				

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NO.	AREA OF LOCATION	COORD-INATES	FREQ MCS	PW M/SEC	PRF PPS	SWEEP RATE	RANGE NM	USE/REMARKS
61	Port Arthur, Manchuria	384605N 1211135E and 384555N 1211240E and 384700N 1211305E	73-78	2.5-3.5	700-1550	Trk	30	GL
62	Dairen, Manchuria	3921N 12145E	71-73	10.0-12.0	50	Trk	85	EW
63	Dairen, Manchuria	3852N 12141E	145-147	5.5-10.0	751-1450	3-4	Unk	Prob GCI
64	Dairen, Manchuria	385530N 12132E	208	6.0	398	Trk	65	Prob GCI
65	Dairen, Manchuria		205-220	2.0-9.0	E400-475	2-4 & Trk	65	Prob GCI
66	Dairen/Chefoo area	Ship-borne	151	6.25-9.0	505-513	5 & Trk	Unk	Prob Air Search (EW)
67	Chefoo, China	3727N 12127E	148	7.5	519	Trk	Unk	Poss GCI/EW
68	Shih-tao, China	3654N 12223E	73	10.0-15.0	50	Unk	85	EW
69	Lai-yang, China	3652N 12113E	71-74	4.0-17.0	50	Trk	85	EW
70	Tsingtao Afld, China	3610N 12023E	70-73	10.0-15.0	50	2 & Trk	85	EW
71	Yen-cheng, China	3323N 12007E	73-74.3	7.0-10.0	E25-50	2 & Trk	85	EW
72	Tung-tai, China	3252N 12018E	74	5.0	50	2 & Trk	85	EW
73	Ju-kao, China	3225N 12034E	73	5.0-12.0	E25-50	2 & Trk	85	EW
74	Nan-tung, China	3200N 12058E	74	6.5-10.0	E50 & 394	Trk	85	EW
75	Shanghai, China		97-103	30.0-40.0	344-707	Trk	140/	EW
76	Wu-sung Afld, China	3126N 12126E	72-74	7.5-10.0	50 & 394	Trk	85	EW

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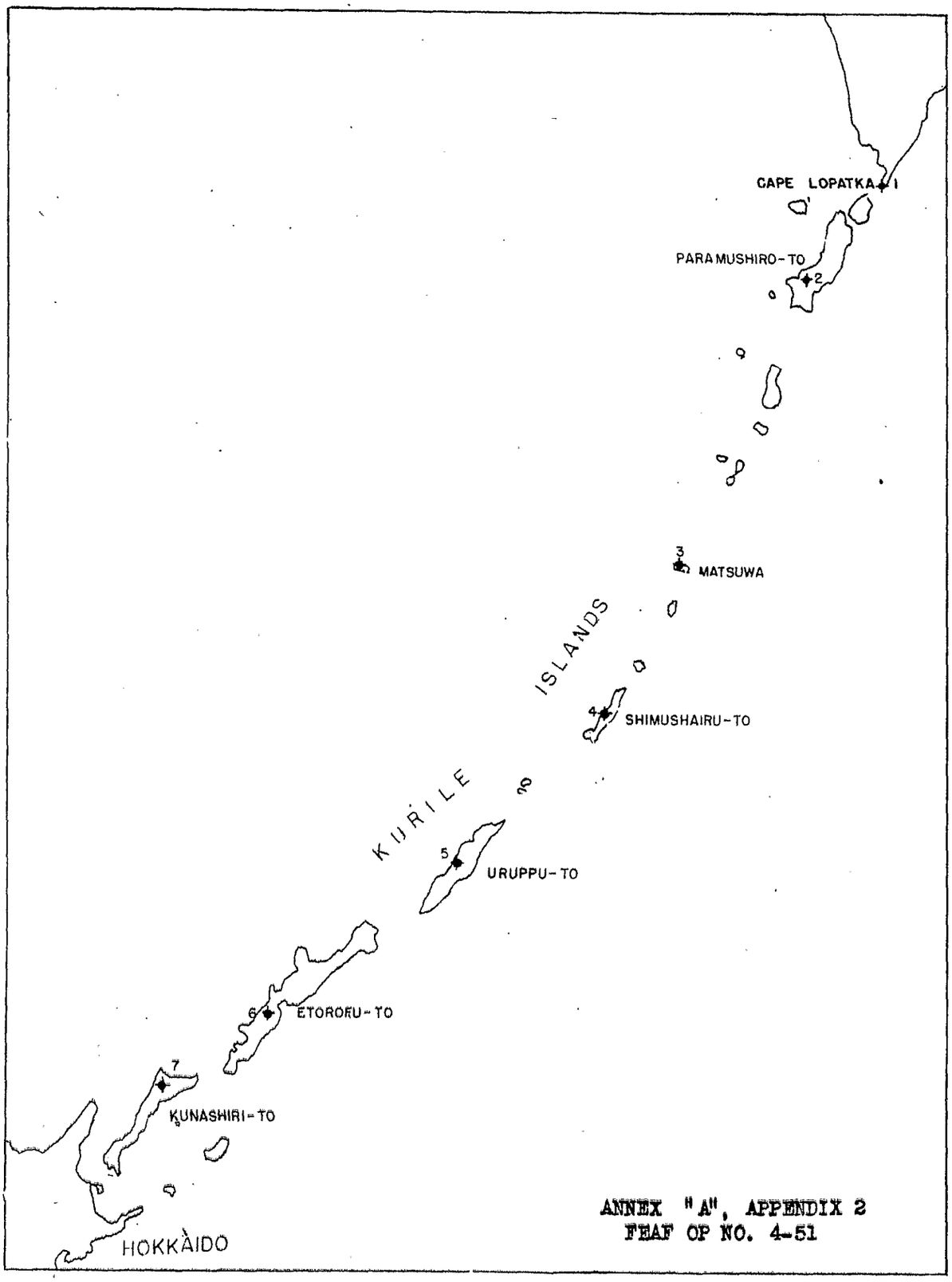
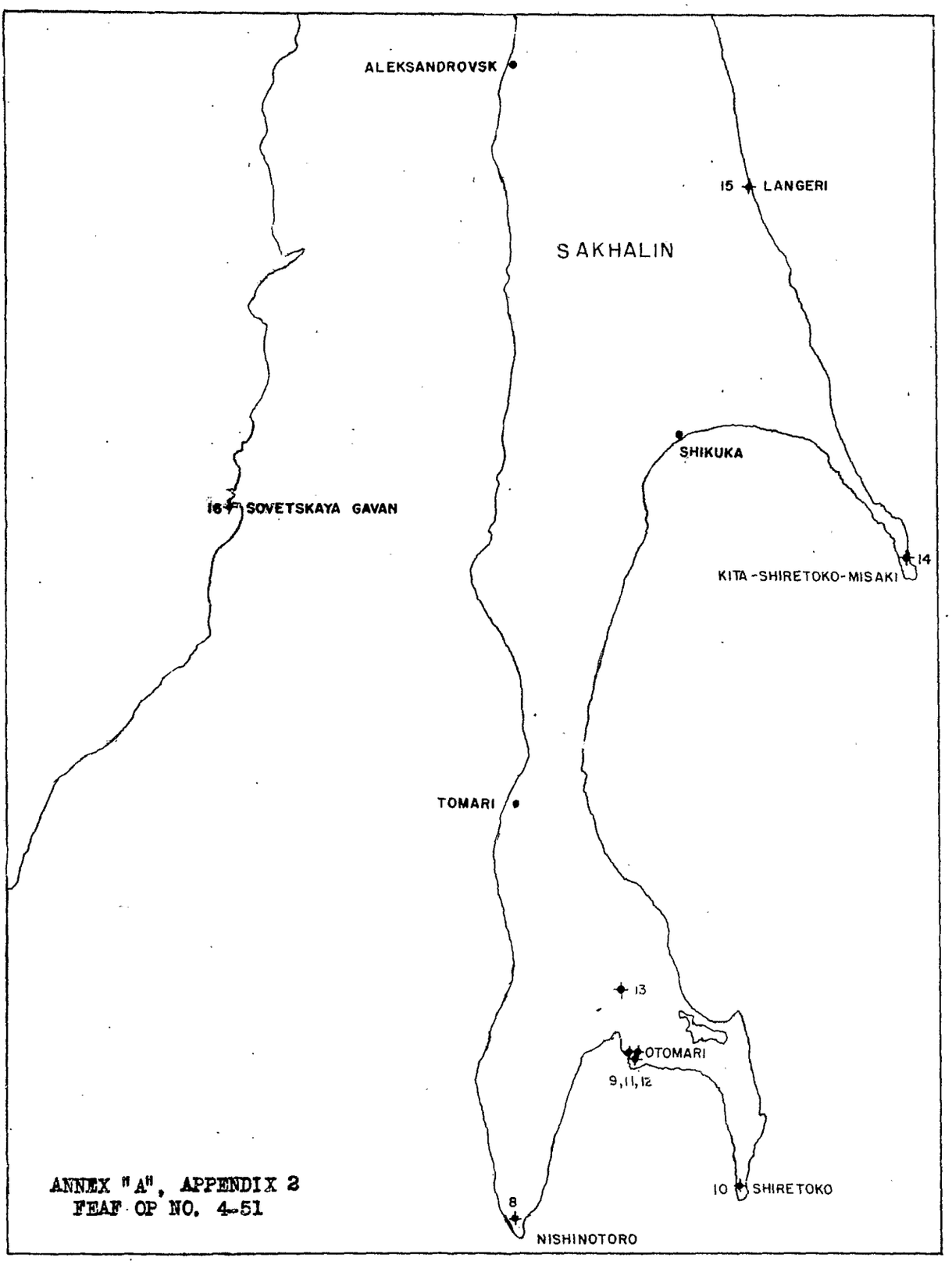
NO.	AREA OF LOCATION	COORD-INATES	FREQ MCS	PW M/SEC	PRF PPS	SWEEP RATE	RANGE NM	USE/REMARKS
77	Shanghai, China	3118N 12127E	71-74	5.0-10.0	50 & 394	Trk	85	EW
78	Shanghai, China	3110N 12123E	73	10.0	50	2 & Trk	85	EW
79	Shanghai, China		Four (4) GL radars. Exact locations and characteristics unknown.					
80	Tung-hai, Afld China	3000N 12207E	74	5.0	E50	Trk	85	EW
81	Ningpo, China	2955N 12148E	73-74	7.0-10.0	50	Trk	85	EW
82	Sung-men, China	2812N 12140E	2975	1.3	E500	21	Unk	Possible shipborne
83	North of Fu-chou, China	2635N 11923E	96	44.0	360	2	140+	EW
84	P'u-hsi, China	2508N 11908E	210	1.5-5.0	420-552	6	65	Poss GCI
85	Tung-shan, China	2345N 11730E	71	20.0	E1500	Trk	100+	EW
86	Swatow, China	2320N 11640E	71-72	20.0-25.0	E1500	Trk	100+	EW
87	Ta-Ya-wan, China	2242N 11447E	87	4.0	50	6	100(?)	EW
88	Macau/Hong Kong, China	2213N 11333	208	5.0	707	Trk	Unk	Air Search Possible shipborne
89	Ladrone Islands	2158N	87	4.0	50	Trk	100(?)	EW

ANNEX "A", Appendix 2
FEAF OP NO. 4-51

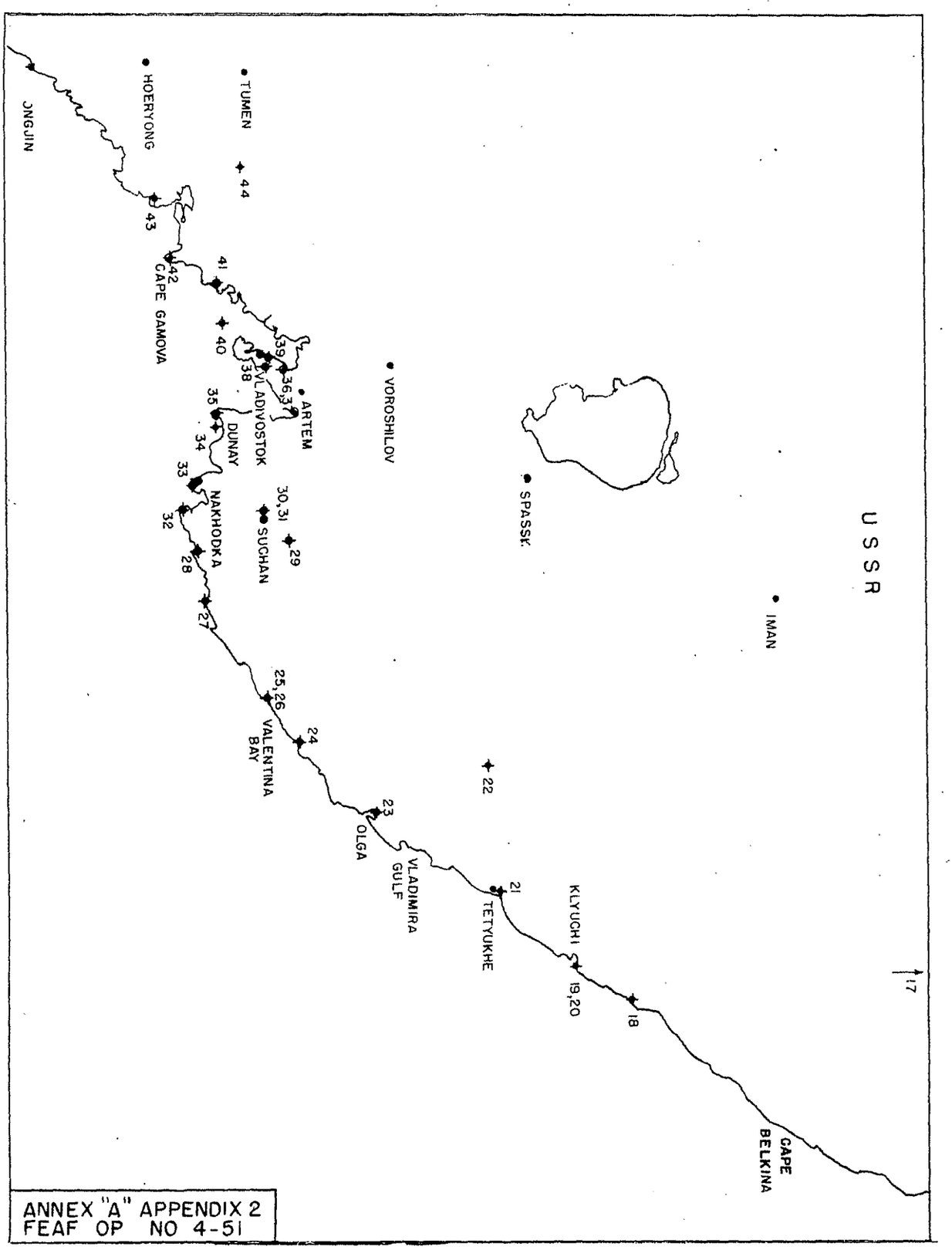
ANNEX "A"
APPENDIX 2
CHART 1



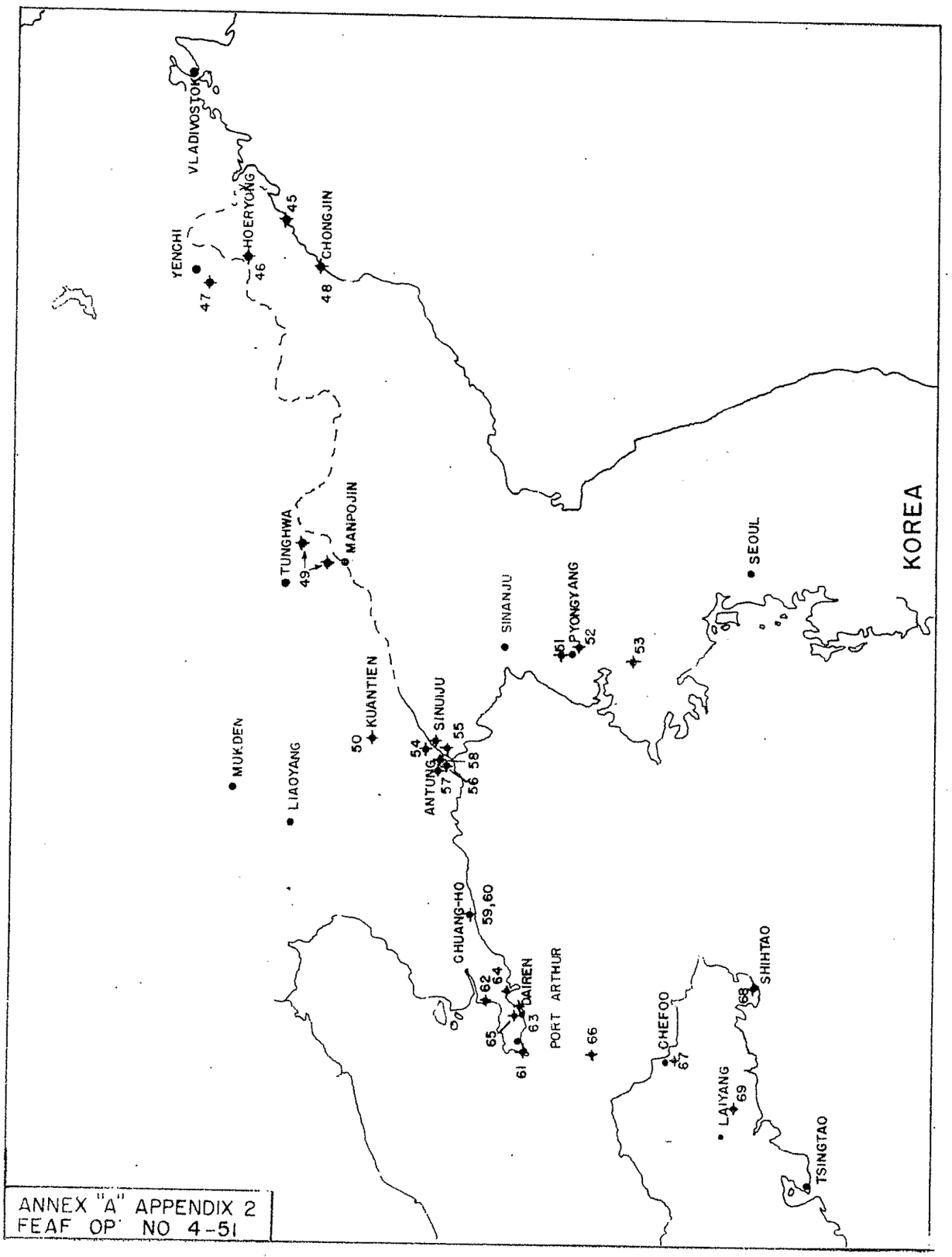
ANNEX "A"
APPENDIX 2
CHART 2



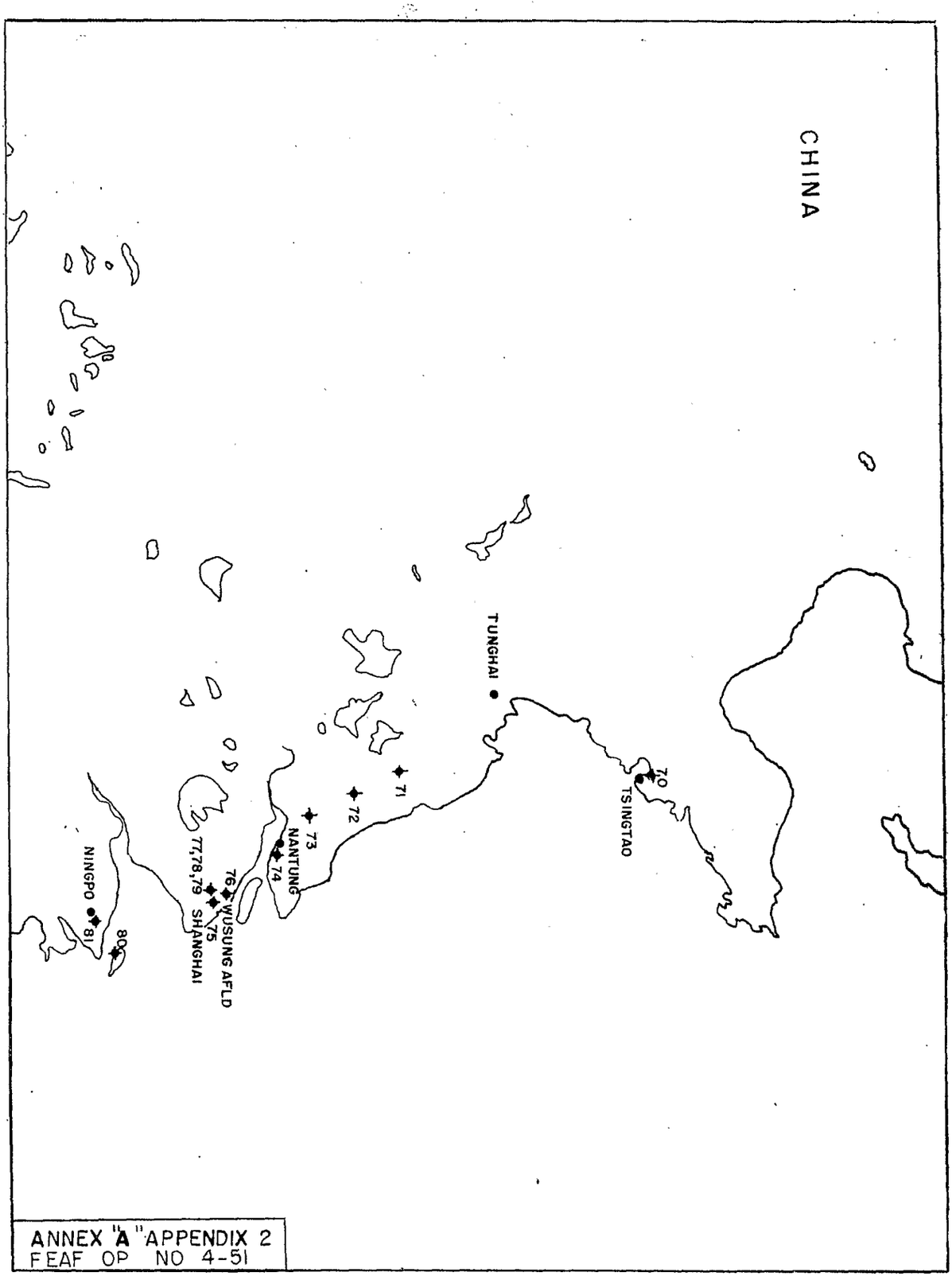
ANNEX "A"
APPENDIX 2
CHART 3



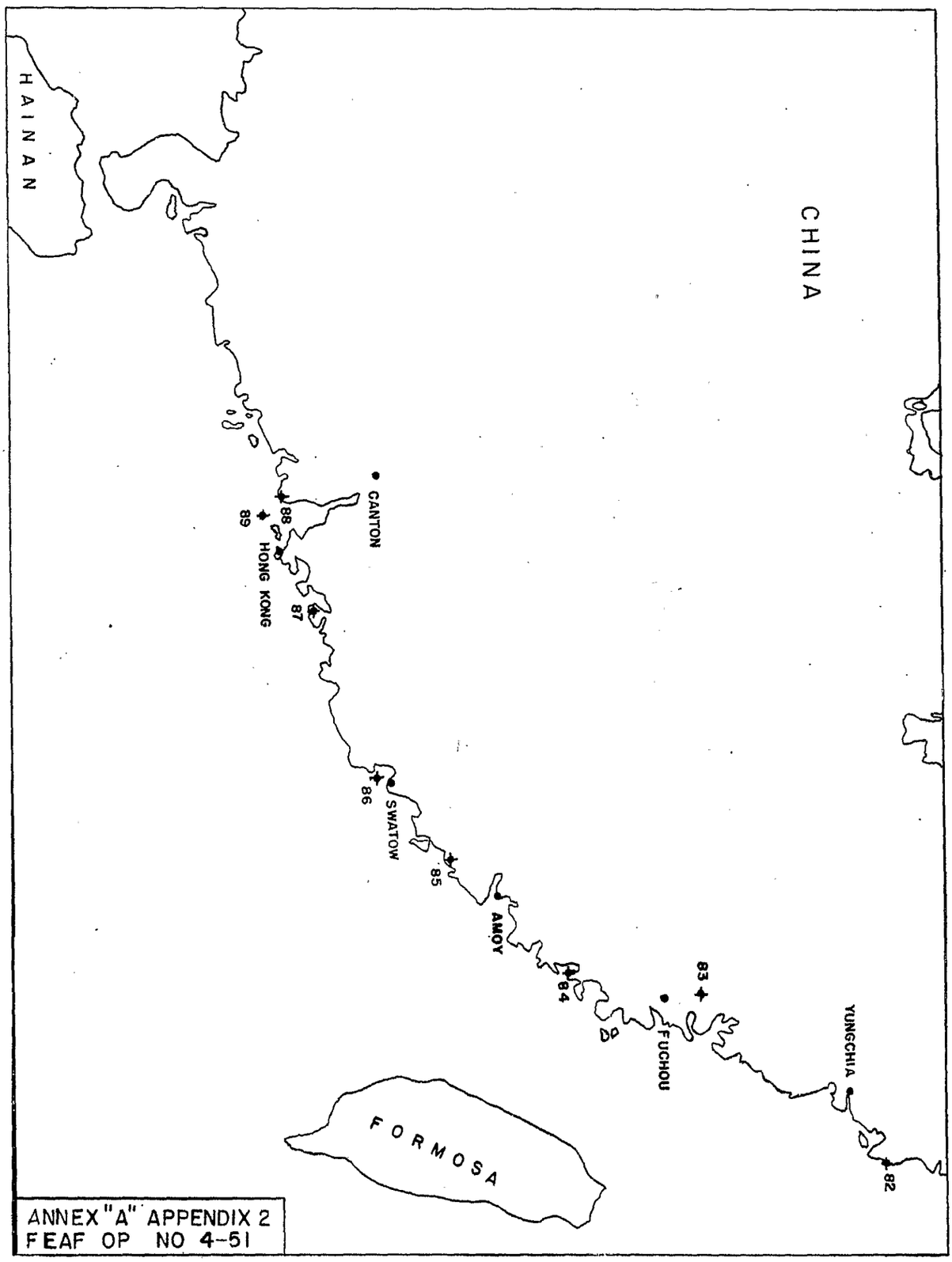
ANNEX "A"
APPENDIX 2
CHART 4



ANNEX "A"
APPENDIX 2
CHART 5



ANNEX "A"
APPENDIX 2
CHART 6



ANNEX "B"

TARGETS

FEAF OPERATIONS PLAN

NO. 4-51

1. Attached hereto as appendices 1 through 4 are air facility target lists arranged by areas and by priority within the areas. A plot plan, indicating the areas A, B, C, and D and the targets, by priority within the areas, is attached as Appendix 5.

2. Target areas are:

a. Area A - Vladivostok-Voroshilov
b. Area B - Dairen-Port Arthur-Mukden
c. Area C - Sakhalin-Etorofu
d. Area D - Shanghai-Peiping

3. Target priorities within areas are based primarily upon current air order of battle and locations of areas and air facilities with respect to United Nations installations. Periodic revisions which may occur in the inclosed appendices will reflect new intelligence available to D/I, FEAF, with particular reference to current air order of battle information.

4. Where radar target material is available on listed installations the corresponding target number so indicates. Target information included in the "Significance" column of Appendices 1 - 4 is the latest intelligence available to D/I, FEAF. Target dossier material which predates later intelligence will be accordingly revised to incorporate the new information as soon as possible.

CHARLES Y. BANFILL
Brigadier General, USAF
Deputy for Intelligence

Appendices:
1. Air Facilities, Area A
2. Air Facilities, Area B
3. Air Facilities, Area C
4. Air Facilities, Area D
5. Target Plot Plan

ANNEX "B", TO FEAF OP NO. 4-51

APPENDIX 1

to

ANNEX "B"

Appendix 1 to Annex "B" to Operations Plan FEAF No. 4-51

Vladivostok-Voroshilov

Airfield Target Number	Coordinates	Significance
1. VLADIVOSTOK/SEDANKA 291/43131/A4 ✓	4313N/13157E	O/B*: HQ Fleet Air Arm, 1 Ftr. Regt. 1 R/W**; 6000' x 500', N/S, concrete. Facilities, hangars, underground fuel storage.
2. SMOLYANINOVO (Romanovka) 291/43132/A4	4314N/13228E	O/B: 1 Ftr. Regt., 1 Bomb. Regt. 1 R/W: 4000' x 300', E/W, concrete. Taxiways, hangar, 34 revetments, shops, barracks, fuel storage.
3. NOVONEZHINO 291/43132/A9	4313N/13235E	O/B: 1 Bomb. Regt. 1 R/W: 3840' x 250', WNW/ESE, concrete. Taxiway, 2 hangars, shops, barracks, 11 revetments.
4. NOVOROSSIYSKOYE 291/43132/A8	4321N/13234E	O/B: 1 Ftr. Regt. 1 R/W: 3840' x 210', E/W, concrete. Taxiway, dispersal area, 3 hangars, shops, barracks, 20 revetments.
5. NIKOLAYEVKA 291/43133/A2	4306N/13312E	O/B: 1 Ftr. Regt., 1 Bomb, Regt. 2 Paved R/Ws: (1) 6400' N/S; (2) 5400' ENE/WSW. Hangars, facilities.
6. SUKHAYA RECHKA 291/43131/A8	4302N/13133E	O/B: 1 Ftr. Regt. 1 R/W: Size and surface unknown Facilities reported.
7. VOROSHILOV/ VOZDVIZHENKA 291/43131/A3	4355N/13156E	O/B: Air Army HQ; 1 Ftr. Regt. 2 Concrete R/Ws: 6000' each. Facilities, taxiways, revetments, hangars, major repair shops.
8. MIKHAYLOVKA WEST 291/43131/A9	4356N/13159E	O/B: 1 Ftr. Regt. 1 R/W: 6790' x 165', concrete. Hangars, revetments.
9. VARFOLOMEYEVKA SW 282/44133/A4	4417N/13324E	O/B: 1 Bomb. Regt., 1 Ftr. Regt. 1 R/W: 3000' x 360', concrete. Facilities, revetments, hangars, major repairs.
10. NOVO SYSOYEVKA 222/44133/A6 ✓	4413N/13322E	O/B: Bomb. Div. HQ; 1 Bomb. Regt. 1 R/W: 3280', concrete. Hangars, revetments.
11. KHOROL 282/44132/A2	4426N/13206E	O/B: 3 Ftr. Regts. 2 R/Ws: 5840' x 190' and 3900' x 190', both steel mat. Taxiways, hangars, underground fuel storage.

✓ - Radar Approach Chart available.
* O/B - Current Air Order of Battle.
** R/W - Runway

Annex "B", Appendix 1, continued:

Airfield Target Number	Coordinates	Significance
12. SPASSK DALNIY 282/44132/A12	4436N/13250E	O/B: Corps HQ: 1 Ftr. Regt., 1 Bomb Regt. 1 R/W: 5-6000', concrete. Facilities, taxiways, major repairs, revetments.
13. SERAFIMOVKA 291/43135/A3*	4352N/13523E	O/B: 1 Ftr. Regt. Landing area: 4000' x 1000', prob. gravel.

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* Target Data Sheet in preparation.

ANNEX "B", APPENDIX 1
FEAF OP 4-51

Appendix 2 to Annex "B" to Operations Plan FEAF NO. 4-51

Area B

Dairen-Port Arthur-Mukden

Airfield Target Number	Coordinates	Significance
1. ANTUNG 290/40124/A1 ✓	4002N/12417E	O/B: 2 Ftr. Regts. (Jet) 2 R/Ws: (1) 6300' x 200', concrete; and (2) 3500' x 300', sod. Taxiway, 54 revetments.
2. FENG- NG EAST 290/ 4/A3	4028N/12407E	O/B: 1 Ftr. Regt. (Jet) 2 R/Ws: (1) 5900' x 660', E/W, gravel; (2) 6560' x 490', NNW/SSE, earth. 1 R/W 6560' x 490', NNE/SSW, rptd under construction.
3. CHOUSHUI* 381/38121/A1 ✓	3858N/12133E	O/B: 2 Ftr. Regts. (1 Jet and 1 Conventional). 4 Concrete R/Ws; 6000' x 250', 4500' x 250', 3300' x 250', and 3000' x 250'. Facilities, taxiways, revetments, 9 hangars, repair shops.
4. CHIN-CHOU* (Chinhsien) 381/39121/A3 ✓	3905N/12144E	O/B: 1 Bomb. Regt., 1 Ftr. Regt. 1 R/W: 6000' x 225', steel mat. 50 revetments, miscellaneous buildings.
5. TU-CHENG-TZU* 381/38121/A2 ✓	3855N/12113E	O/B: 1 Ftr. Regt. 3 R/Ws: (1) 6750' x 200', (2) 4850 x 250', both concrete; and (3) 4800', sod. Facilities, 7 hangars, taxiways, revetments, major repairs.
6. CHIN-CHOU SOUTHEAST* (Chinhsien SE) 381/39121/A2 ✓	3903N/12149E	O/B: 1 Bomb. Regt. 2 R/Ws: (1) 6270' x 350', steel mat, and (2) 3000' x 980, dirt strip, 32 revetments, taxiway, miscellaneous buildings.
7. SAN-SHIH-LI-PU* 381/39121/A1 ✓	3919N/12147E	O/B: 1 Ftr. (?) Regt. 2 R/Ws: (1) 6560' x 330', and (2) 5900' x 330', both concrete. Facilities, taxiways, revetments, hangars, fuel storage.
8. HUA-CHIA-TUN* (Chengshaho) 381/39122/A2 ✓	3915N/12204E	O/B: 1 Ftr. (?) Regt. 1 R/W: 5500' x 330', steel mat. Hangars, fuel storage
9. YINGCHENGTZU* (Ei-josh-i) 381/39121/A5 ✓	3900N/12123E	O/B: 1 Ftr. Regt. 2 R/Ws: (1) 3800' steel mat, and (2) 3290' concrete, widths unknown. Taxiways, hangars.

* In USSR leased territory on Liaotung Peninsula
✓ Radar Approach Chart or Radar Scope Photo available.

ANNEX "B", APPENDIX 2
FEAF OP 4-51

Appendix 2, Area "B", Continued:

Airfield Target Number	Coordinates	Significance	
10. TENG-AO-PAO (Anshan) 289/41122/A2	4106N/12249E	O/B: 1 Ftr. Regt. (Jet) 1 R/W: 5000' x 360', NNE/SSW, concrete. Taxiways, hangars, barracks.	
11. LIAO-YANG 290/41123/A4	4117N/12308E	O/B: 1 Ftr. Sq. (Jet) 1 R/W: 5280' x 300', NNE/SSW, concrete. Facilities, hangars, barracks.	
12. MUKDEN NORTH 290/41123/A1 ✓	4152N/12326E	2 Concrete R/Ws: (1) 4920' x 390', and (2) 3280' x 260'. Taxiways, facilities, hangars, shops, barracks.	O/B: Specific locations unknown. In Mukden area: 2 Ftr. Regts.; (1 Jet and 1 Conventional); 1 Trans. Regt. 1 Bomb. Sq.
13. MUKDEN EAST 290/41123/A2 ✓	4147N/12330E	1 R/W: 5000 x 300' concrete. Taxiway, hangars, shops, barracks.	
14. MUKDEN WEST 290/42123/A7 ✓	4149N/12318E	1 R/W: 5000', concrete. Hangars, shops, barracks.	
15. KAIYUAN 290/42123/A1	4232N/12359E	O/B: 2 Ground Attack Regts. 2 Concrete R/Ws: Both 3940' x 260' Taxiways.	
16. SSU-P'ING-KAI 290/43124/A1	4310N/12418E	O/B: 1 Bomb. Regt. 1 R/W: 3500' x 360', NE/SW, asphalt. Taxiways, revetments, hangars, barracks.	
17. KUNG-CHU-LING 290/43124/A3	4331N/12447E	O/B: 1 Ftr. Regt., (Jet). 1 R/W: 3940' x 330' NE/SW concrete, taxiways, fuel storage, hangars, barracks.	
18. CHANGCHUN WEST 290/43125/A1	4356N/12509E	O/B: 1 Trans. Sq. 2 Concrete R/Ws: (1) 7980' x 460', and (2) 2620' x 260'. Taxiways, hangars.	
19. CHIN-HSIEN WEST 289/41121/A1	4107N/12104E	O/B: 1 Ground Attack Regt. 1 R/W: 4900' x 200', concrete. Taxiways, hangars, shops, warehouses.	

ANNEX "B", APPENDIX 2
FEAF OP 4-51

Appendix 3 to Annex "B" to Operations Plan FEAF No. 4-51

Area C

Sakhalin-Etorofu

Airfield Target Number	Coordinates	Significance
1. TENNEI 280/44147/A1 ✓	4455N/14738E	O/B: 1 Ftr. Regt., 2 Bomb. Regts. 3 Concrete R/Ws: (1) 5000' x 300' N/S; (2) 5000' x 300' NW/SE; and (3) 4000' x 250' E/W. Taxiways, revetments, facilities, fuel storage, hangars.
2. IKETSUKI 281/46142/A2	4634N/14224E	O/B: 1 Ftr. Regt. 1 R/W: 4350' x 400', surface unknown. Taxiways, revetments, fuel storage.
3. KORSAKOV (Otomari) 281/46142/A1	4638N/14247E	O/B: 1 Ftr. Regt., 1 Bomb. Regt. 1 R/W: 5250' x 320', surface unknown. Dispersal areas, taxiways, revetments and hardstands, hangarettes, underground storage.
4. YUZHNO SAKHALINSK (Ozawa) 281/46142/A3	4655N/14244E	O/B: 2 Ftr. Regts. 1 R/W: 4250' x 620' , surface unknown. Taxiways, dispersal areas, revetments.
5. KONUMA 281/47142/A2	4704N/14245E	O/B: 1 Ftr. Sq. 1 R/W: 6700' x 350', surface unknown. Dispersal areas, revetments.
6. DOLINSK 281/47142/A3	4715N/14246E	O/B: Air Army HQ; 1 Ftr. Regt. 2 Parallel R/Ws: (1) 4600' x 500', and (2) 4200' x 170', surface unknown. Dispersal areas, taxiways, revetments, 18 Hangars, repair shops, barracks, underground storage.
7. KONOTORO 281/47142/A1 ✓	4717N/14200E	O/B: 1 Ftr. Regt. 1 R/W: 5100' x 530', surface unknown. Dispersal, taxiways, revetments, underground fuel storage.
8. NAIRO (Gastello) 205/49142/A1	4906N/14257E	O/B: 3 Unidentified Regts. 3 R/Ws: Dimensions and surface unknown. Taxiways, revetments, hangars.
9. TORO (Shakhtyevsk) 205/49142/A2	4912N/14203E	O/B: 1 Trans. Regt. 1 R/W: 4200' x 230', surface unknown Taxiways, dispersal areas, miscellaneous buildings and barracks.
10. KAMI-SHIKUKA 205/49142/A3	4917N/14255E	O/B: 4 Bomb. Regts. 3 R/Ws, surface unknown: (1) 5430' x 540'; (2) 5250' x 325'; and (3) 4200' x 250'. Taxiways, revetments, hangars, barracks.

✓ Radar Scope Photo available.

ANNEX "B", APPENDIX 3
FEAF OP 4-51

Appendix 3, Area "C" Continued.

Airfield Target Number	Coordinates	Significance
11. HATSUMA (Matrasov) 205/49142/A4	4924N/14252E	O/B: 2 Ftr Sqs. 2 R/Ws: (1) 4000' x 330', NNW/SSE, concrete; and (2) length & surface unknown, NNE/SSW. Taxiways, revetment
12. KETON (Smiryv) 205/49142/A5	4944N/14252E	O/B: 2 Bomb. Regts. 1 R/W: Dimensions and surface unknown. Dispersal areas, revetments, fuel storage area 1 mile E of R/W, barracks

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ANNEX "B", APPENDIX 3
FEAF OP 4-51

Appendix 4 to Annex "B" to Operations Plan FEAF NO. 4-51

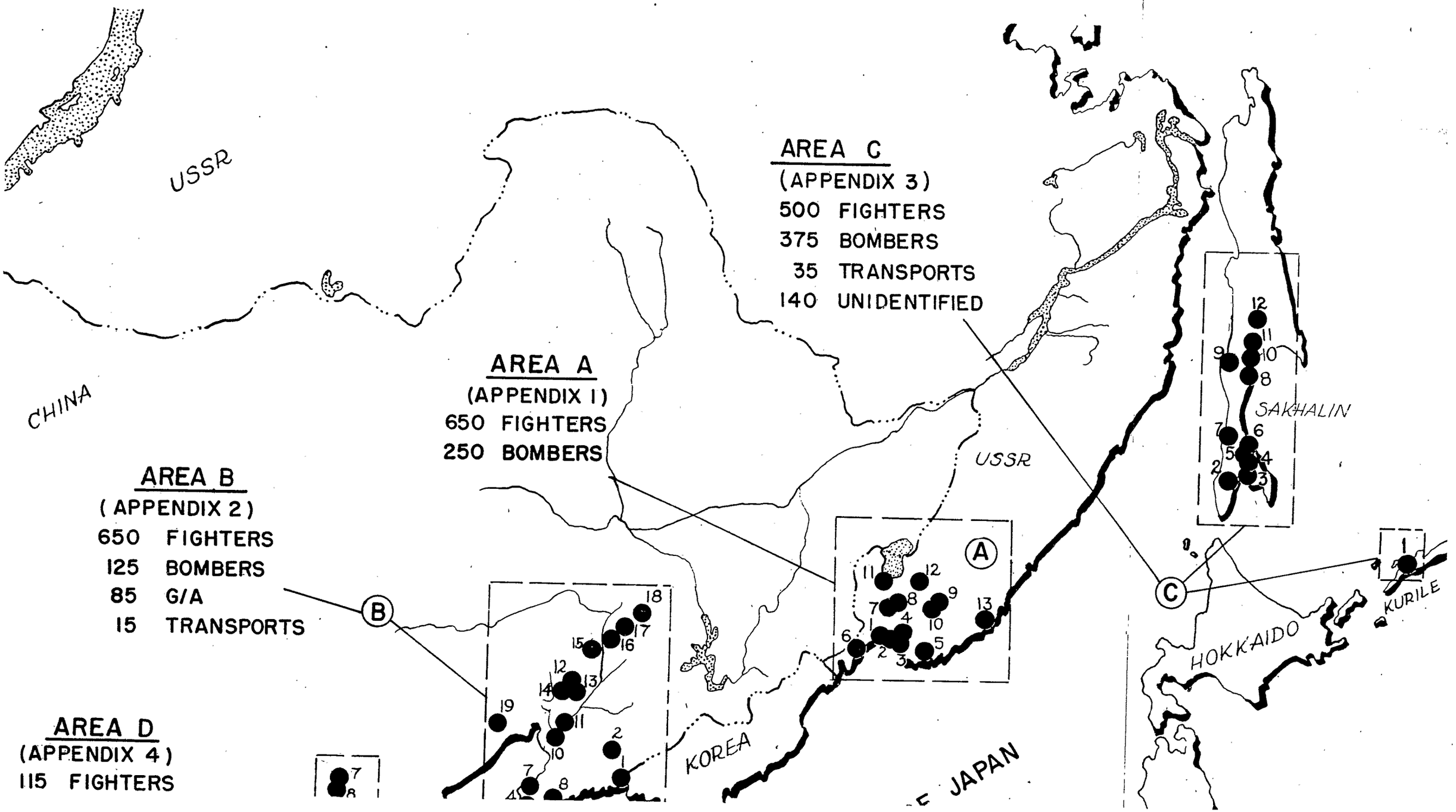
Area D

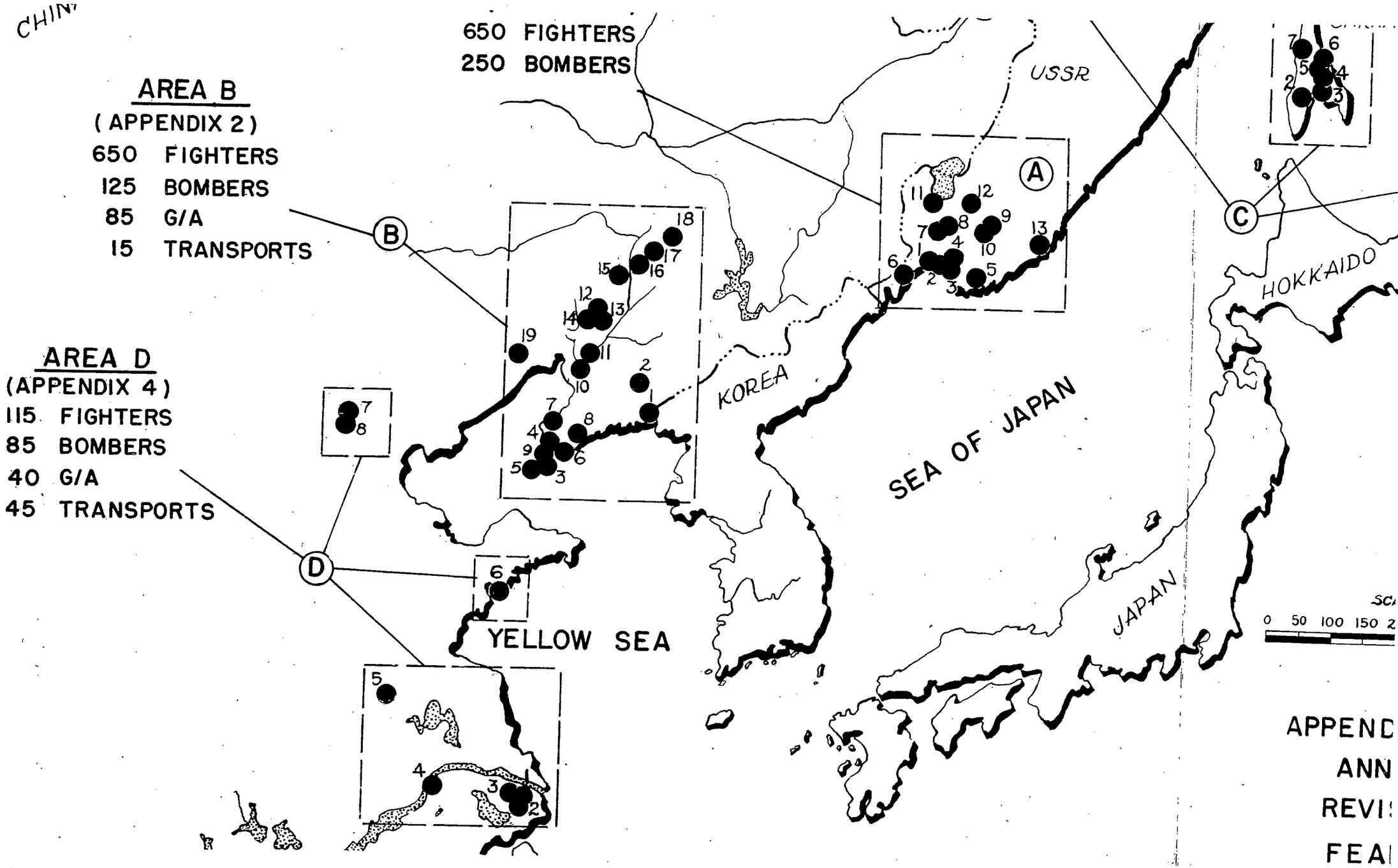
Shanghai-Peiping

Airfield Target Number	Coordinates	Significance	
1. CHIANGWAN 492/31121/A3 ✓	3120N/12130E	4 Concrete R/Ws: (1) 5200' x 300', N/S; (2) 4200' x 300', E/W; (3) 4000' x 490', NE/SW; and (4) 3500' x 820'. Facilities, hangars revetments.	O/B: 1 Bomb.Regt. 1 Ftr. Regt,; 1 Transport Sq. Specific locations unknown.
2. HUNGCHIAO 492/31121/A1 ✓	3113N/12120E	1 R/W: 7000' x 525', gravel. Facilities revetments.	
3. TACHANG 492/31121/A4 ✓	3119N/12125E	2 Concrete R/Ws: (1) 5000' x 200' N/S: and (2) 5000' x 200', E/W. Taxiways, facilities, revetments, major repairs.	
4. TA-CHIAO-CHANG (Nanking) 493/31118/A1	3159N/11849E	O/B: 1 Bomb. Regt. 2 R/Ws: (1) 7900' x 110', NE/SW, macadam; (2) 7200' x 140', NE/SW, concrete. Facilities, fuel storage. 2 hangars, barracks.	
5. HSUCHOU SOUTHEAST 386/34117/A1	3414N/11714E	O/B: Air Div. HQ; 1 Ground Attack Regt, 1 Ftr. Regt. 2 R/Ws: (1) 5000' x 320' (2800' concrete, remainder graded earth)/ and (2) 3300' x 500', graded earth. Facilities, revetments.	
6. TSINGTAO (Tsangkow) 381/36120/A2	3609N/12023E	O/B: 1 Ftr. Rgt. (Jet). 2 R/Ws: (1) 6800' x 300' NW/SE, asphalt and sod; (2) 5080' x 300', NE/SW, asphalt and sod. Facilities, taxiways, revetments, hangars, barracks.	
7. LANTIENCHANG 381/39116/A2	3958N/11615E	3 R/Ws: (1) 3396' x 219', concrete; (2) and (3) both 3460' x 177', asphalt. Facilities, hangars.	O/B: HQ CCAF; 1 Bomb. Sq. and 2 Transport Regts. in this area. Specific location unknown.
8. NANYUAN 381/39116/A1	3947N/11623E	3 Concrete R/Ws: (1) 8280' x 320', N/S; (2) 4040' x 650', NW/SE; and (3) 3500' x 500' E/W for emergency use. Facilities, hangars, dispersal.	

✓ Radar Scope Photo available.

ANNEX "B", APPENDIX 4
FEAF OP 4-51


USSR
CHINA
AREA C
(APPENDIX 3)
500 FIGHTERS
375 BOMBERS
35 TRANSPORTS
140 UNIDENTIFIED
AREA A
(APPENDIX 1)
650 FIGHTERS
250 BOMBERS
AREA B
(APPENDIX 2)
650 FIGHTERS
125 BOMBERS
85 G/A
15 TRANSPORTS
AREA D
(APPENDIX 4)
115 FIGHTERS
USSR
SAKHALIN
KURILE
HOKKAIDO
KOREA
JAPAN
A
B
C


650 FIGHTERS
250 BOMBERS
AREA B
(APPENDIX 2)
650 FIGHTERS
125 BOMBERS
85 G/A
15 TRANSPORTS
AREA D
(APPENDIX 4)
115 FIGHTERS
85 BOMBERS
40 G/A
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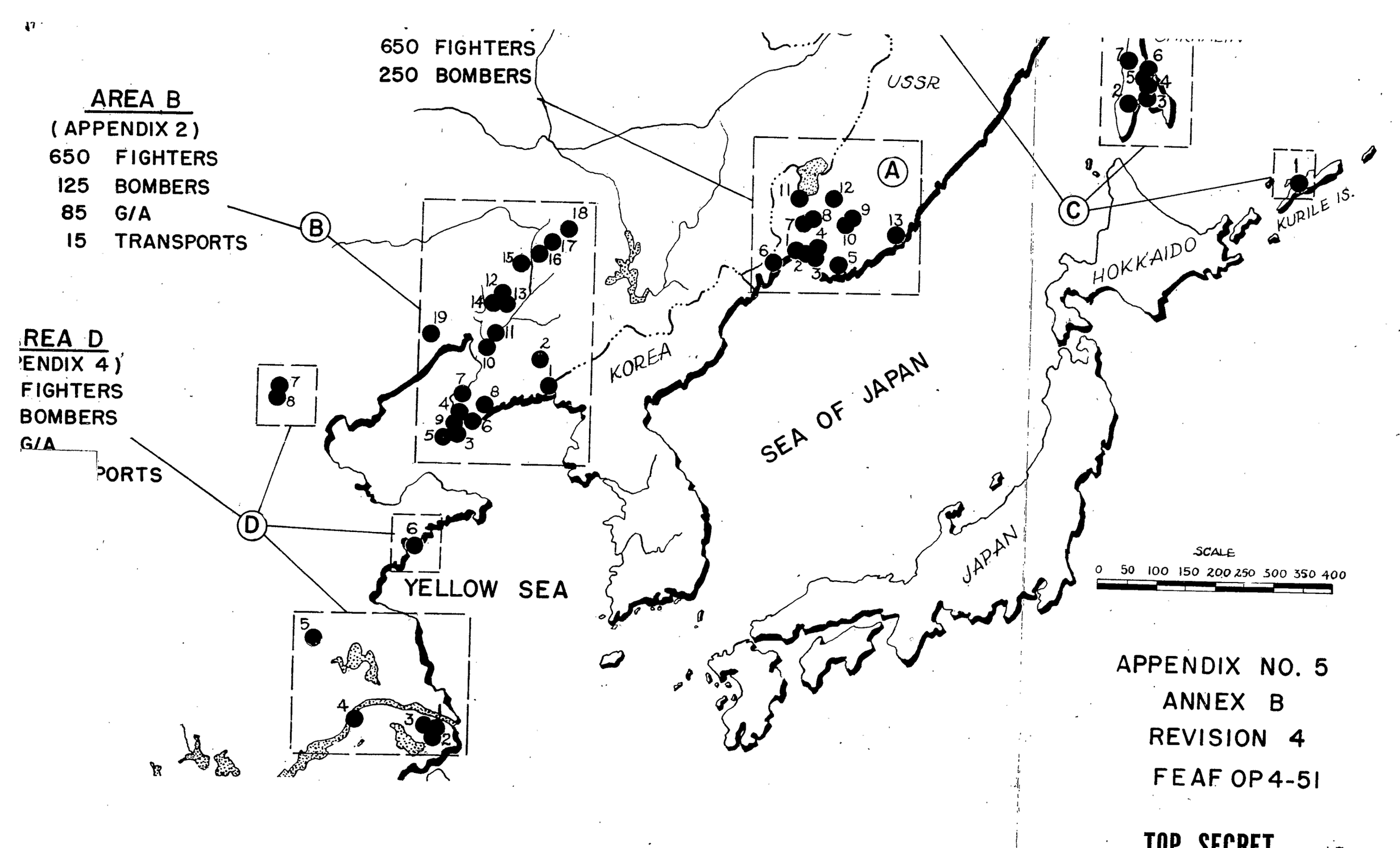
USSR
KOREA
SEA OF JAPAN
YELLOW SEA
JAPAN
HOKKAIDO
A
B
C
D
0 50 100 150



APPENDIX NO. 5
ANNEX B
REVISION 4
FEAF OP4-51

TOP SECRET

ANNEX "C"
TO
OPERATION PLAN
FEAF NO. 4-51
RECONNIASSANCE

CHART AND MAP REFERENCES: See Annex "A" - Intelligence

TASK ORGANIZATION

a. FIFTH AIR FORCE

b. FEAF BOMBER COMMAND

c. 548TH RECONNAISSANCE TECHNICAL SQUADRON

1. GENERAL SITUATION: See Basic Plan.

2. MISSION: This command provides required reconnaissance, laboratory and photo interpretation support for FEAF Operation Plan 4-51.

3. TASKS FOR SUBORDINATE UNITS:

a. Fifth Air Force will:

(1) Employ up to 50% of available RF-80 aircraft for photo reconnaissance in Area B.

(2) Employ a minimum of 25% of available RF-80 aircraft for photo reconnaissance in Area C.

(3) Employ available RF-51 aircraft for reconnaissance in Area D.

(4) Employ remainder of photo reconnaissance effort to meet Korean requirements.

(5) Coordinate with FEAF BOMCOM to insure correlation of reconnaissance effort.

(6) Forward by most expeditious means one set of selected prints with negatives to 548th Reconnaissance Technical Squadron of reconnaissance film processed in Korea; and in addition will render an immediate radio photo interpretation report of subject photography to this and other interested headquarters.

(7) Courier by the most expeditious means to 548th Reconnaissance Technical Squadron for processing exposed reconnaissance film from aircraft landing in Japan.

b. FEAF Bomber Command will:

(1) Employ available RB-45 aircraft for reconnaissance in Area A.

(2) Employ half of the available RB-29 aircraft for night reconnaissance in Area C and the other half for night reconnaissance in Area D.

(3) Coordinate with Fifth Air Force to insure correlation of reconnaissance effort.

(4) Forward exposed reconnaissance film by the most expeditious means to 548th Reconnaissance Technical Squadron for processing.

c. 548th Reconnaissance Technical Squadron will:

(1) Render an immediate radio photo interpretation report to this and other interested headquarters of both Fifth Air Force and BOMCOM reconnaissance film processed and will follow up with an appropriate Mission Review Intelligence Report.

(2) Render such other photo interpretation reports as may be required by this headquarters, Fifth Air Force, or FEAF Bomber Command.

x. Maximum cameras and film load will be employed for all reconnaissance aircraft to enable obtaining required post-strike, pre-strike and other reconnaissance photo cover and all possible photo cover of targets observed which are overflown. In addition tri-metrogon and radar scope photography will be obtained to the fullest extent possible in conjunction with all sorties.

4. ADMINISTRATION AND LOGISTICS: Not applicable.

5. COMMAND AND COMMUNICATIONS MATTERS: Not Applicable.

BY COMMAND OF LIEUTENANT GENERAL STRATEMEYER:

Charles Y. Banfill

CHARLES Y. BANFILL
Brigadier General, USAF
Deputy for Intelligence

ADDED DISTRIBUTION:
CO, 548th Rcn Tech Sq, 2 cys

ANNEX "C" TO FEAF OP 4-51